

B. Amendment to the Specification

Please replace paragraph [0060] in the substitute specification with the following new paragraph:

--Single strand nucleic acid of ~~base sequence No. 1~~ SEQ ID NO:1 (40mer of dT) was synthesized by a DNA synthesis company (BEX CO. LTD.). Sulfanilic group (SH) was introduced to the 5' end of the single strand DNA of the ~~base sequence No. 1~~ SEQ ID NO:1 by using a thiol modifier (available from GLENN RESEARCH CENTER). After the DNA synthesis, the deprotecting and the recovering of DNA were carried out according to the ordinary methods, DNA was purified by using HPLC. The processing from the synthesis to the purification was conducted by the aforementioned DNA synthesis company.--

Please replace paragraph [0061] in the substitute specification with the following new paragraph:

--~~Sequence No. 1~~ SEQ ID NO:1  
5'HS-(CH<sub>2</sub>)<sub>6</sub>-O-PO<sub>2</sub>-O-TTTTTTTTTT TTTTTTTTTT TTTTTTTTTT TTTTTTTTTT 3'  
(4) DNA discharge by using a thermal jet printer and binding of DNA to the substrate--

Please replace paragraph [0071] in the substitute specification with the following new paragraph:

--DNA chip was prepared with DNA of the following ~~base sequence No. 2~~ SEQ ID NO:2, in the procedure identical to the procedure described in Example 1.--

Please replace paragraph [0072] in the substitute specification with the following new paragraph:

~~--Sequence No. 2~~ SEQ ID NO:2

5'HS-(CH<sub>2</sub>)<sub>6</sub>-O-PO<sub>2</sub>-O-TGCAGGCATG CAAGCTTGGC ACTGGCCGTC  
GTTTACAAC GTCGTGACTG 3'

(2) Imaging and composition analysis via TOF-SIMS--

Please replace paragraph [0073] in the substitute specification with the following new paragraph:

--Imaging and composition analysis for the DNA chip comprising DNA of the above-identified ~~sequence No. 2~~ SEQ ID NO:2 were conducted via the method and conditions identical to these described in Example 2.--

Please replace paragraph [0075] in the substitute specification with the following new paragraph:

--RNA chip was prepared with RNA (U20) of the following ~~base sequence No. 3~~ SEQ ID NO:3 using a procedure that is identical to the one described in Example 1, except that all the preparation processes were carried out free of RNase that is an RNA decomposition enzyme.--

Please replace paragraph [0076] in the substitute specification with the following new paragraph:

~~--Sequence No. 3~~ SEQ ID NO:3

5'HS-(CH<sub>2</sub>)<sub>6</sub>-O-PO<sub>2</sub>-O-UUUUUUUUUU UUUUUUUUUU 3'

(2) Imaging and composition analysis via TOF-SIMS--

Please replace paragraph [0077] in the substitute specification with the following new paragraph:

--Imaging and composition analysis for the RNA chip comprising RNA of the above-identified ~~sequence No. 3~~ SEQ ID NO:3 were conducted via the method and conditions identical to those described in Example 2. Here, the RNA chip substrate was maintained RNase free just until the TOF-SIMS analysis was started.--

Please replace paragraph [0079] in the substitute specification with the following new paragraph:

--PNA having the base sequence identical to the base sequence of the DNA probe prepared in the Example 3 (referred to as ~~Sequence No. 2<sup>1</sup>~~ SEQ ID NO:5) was synthesized by a DNA synthesis company (BEX CO. LTD.). Here, cysteine, one of the amino acids, was bonded to the N end (corresponding to the 5' end of nucleic acid) via a linker described below. Since cysteine contains a (SH-) group in the branch, PNA can bind with the maleimide group present on the quartz substrate after its surface is treated.--

Please replace paragraph [0080] in the substitute specification with the following new paragraph:

--The PNA chip was prepared with PNA of ~~sequence No. 2~~ SEQ ID NO:5 using a procedure identical to that in Example 1.--

Please replace paragraph [0081] in the substitute specification with the following new paragraph:

--~~Sequence No. 2~~ SEQ ID NO:5

NCys-NH-(CH<sub>2</sub>)<sub>2</sub>-O-(CH<sub>2</sub>)<sub>2</sub>-O-CH<sub>2</sub>CONH-TGCAGGCATG CAAGCTTGGC  
ACTGGCCGTC GTTTTACAAC GTCGTGACTG

(2) Imaging and composition analysis via TOF-SIMS--

Please replace paragraph [0082] in the substitute specification with the following new paragraph:

--Imaging and composition analysis for the PNA chip comprising PNA of the above-identified ~~sequence No. 2~~ SEQ ID NO:5 were conducted via the method and conditions identical to those described in Example 2.--

Please replace paragraph [0089] in the substitute specification with the following new paragraph:

--A DNA chip was prepared with DNA of the following ~~sequence No. 4~~ SEQ ID NO:4 using a procedure identical to that described in Example 1.--

Please replace paragraph [0090] in the substitute specification with the following new paragraph:

--~~Sequence No. 4~~ SEQ ID NO:4

5'HS-(CH<sub>2</sub>)<sub>6</sub>-O-PO<sub>2</sub>-O-ACTGGCCGTC GTTTTACA 3'

(2) Imaging and composition analysis via TOF-SIMS--

Please replace paragraph [0091] in the substitute specification with the following new paragraph:

--Imaging and composition analysis for the DNA chip comprising DNA having the above-identified ~~sequence No. 4~~ SEQ ID NO:4 were conducted by using Ga<sup>+</sup> and [[Au<sub>3</sub><sup>+</sup>]] Au<sup>3+</sup> for primary ions (apparatus employed for the present Examples was "TOF-SIMS IV" commercially available from ION TOF CO. LTD). The conditions for measurements are listed below.--